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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,586	04/16/2004	David L. Gothard	AMD-006 US	1757
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EXAMINER				
DUONG, THOI V				
ART UNIT		PAPER NUMBER		
2871				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,586

Applicant(s)

GOTHARD, DAVID L.

Examiner

THOI V. DUONG

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 12, 2010 has been entered.

Accordingly, claims 1-44 were cancelled and new claims 45-81 were added. Currently, claims 45-81 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 45, 58, 68 and 75 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 45-50, 55, 68-71 and 73 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (Johnson, US 6,439,731 B1).**

Re claims 45 and 68, as shown in Fig. 2, Johnson discloses an LCD or organic display having uniform high intensity backlighting, wherein said backlighting is provided by an illumination apparatus comprising:

a first panel 10 (PCB) comprising a grid of high intensity light point sources 12 (LEDs);

a diffuser panel 20, the light passing directly from the point sources 12 to the diffuser panel 20; and

a display panel 18,

wherein the panels, each defining a plane, overlay one another in the sequence stated with their planes parallel to one another.

Johnson discloses that the diffuser panel 20 converts light from the light point sources 12 into more uniform glow across the surface of the LCD panel 18 so as to obtain a more uniform illumination of the LCD panel 18 over a relatively wide range of viewing angles (col. 6, line 65 through col. 7, line 6). Accordingly, it is clear that the diffuser panel is capable of softening and giving a uniform appearance to the light emitted by said first panel, and the first panel 10 and the diffuser panel 20 provide a uniform high intensity backlighting to the display panel 18,

Re claims 46 and 69, the high intensity light point sources 12 are LEDs (col. 5, lines 1-9).

Re claim 47, the LEDs 12 are aligned in a plurality of columns and rows as shown in Fig. 2 (col. 5, lines 10-19).

Re claims 48 and 70, the first panel 10 comprises a grid of high intensity light sources 12 and a reflective background (col. 4, line 58 through col. 5, line 19).

Re claim 49, the first panel 10 comprises a grid of LEDs 12 and a reflective background (col. 4, line 58 through col. 5, line 19).

Re claim 50, the first panel 10 has a white background (col. 4, lines 60-67).

Re claim 71, the first panel 10 comprises a grid of high intensity light sources 12 and a white background (col. 4, line 58 through col. 5, line 19).

Re claims 55 and 73, the display panel 18 is an LCD display panel.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 51-54, 56, 72 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (Johnson, US 6,439,731 B1) in view of Shimada et al. (Shimada, US 6,020,867).

Re claims 51, 52 and 72, Johnson does not disclose that the diffuser panel is made of polycarbonate or glass.

As shown in Figs. 89 and 90, Shimada discloses that the diffuser panel 239 disposed in front of the backlight unit 530 may be formed of a transparent member such as polycarbonate or glass in order to provide a large area planar distribution showing a

high luminance and a good viewing angle characteristic (col. 37, line 52 through col. 38, line 5; and col. 38, lines 29-32).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the illumination apparatus for displays of Johnson by employing a diffuser formed of polycarbonate or glass as taught by Shimada in order to realize a high luminance and a good viewing angle characteristic for the display (col. 38, lines 29-32).

Re claims 53 and 54, as shown in Fig. 148, Shimada discloses a LCD apparatus comprising a backlight unit 530, a diffuser panel 239 (diffusion plate), a LCD panel P, and a cover 242 (face plate) placed in front of the LCD panel P to protect the LCD panel P, wherein the cover 242 is made of a reinforced glass (col. 11, lines 4-11; col. 19, lines 13-17; and col. 61, line 59 through col. 62, line 20).

Re claims 56 and 74, Johnson discloses that the illumination apparatus is applicable to a flat panel display (col. 3, lines 14-20). According to an intended application, it is well known in the art that the flat panel can be a television display panel.

7. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (Johnson, US 6,439,731 B1) in view of Abileah et al. (Abileah, US 7,280,102 B2).

Johnson discloses that the illumination apparatus is applicable to a flat panel display (col. 3, lines 14-20). However, Johnson does not specifically suggest that the display panel is an organic display panel.

As shown in Fig. 1, Abileah discloses a display device comprising an illumination apparatus 52 with LEDs, a diffuser 56 and a display panel 54, wherein the display panel can be liquid crystal display, plasma display, organic display, EL display, etc... (col. 3, lines 18-27 and col. 4, lines 30-43).

Thus, according to an intended application, it would have been obvious to one having ordinary skill in the art that the display panel can be an organic display panel.

8. Claims 58-63, 75-78, 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (Johnson, US 6,439,731 B1) in view of Garwin et al. (Garwin, US 5,949,402).

Re claims 58 and 75, as shown in Fig. 2, Johnson discloses an LCD or organic display having uniform high intensity backlighting, wherein said backlighting is provided by an illumination apparatus comprising:

a first panel 10 comprising a grid of high intensity light point sources 12 (LEDs) and

a diffuser panel 20, the light passing directly from the point sources 12 to the diffuser panel 20; and

a display panel 18,

wherein the panels, each defining a plane, overlay one another in the sequence stated with their planes parallel to one another.

Johnson discloses that the diffuser panel 20 converts light from the light point sources 12 into more uniform glow across the surface of the LCD panel 18 so as to obtain a more uniform illumination of the LCD panel 18 over a relatively wide range of

viewing angles (col. 6, line 65 through col. 7, line 6). Accordingly, it is clear that the diffuser panel is capable of softening and giving a uniform appearance to the light emitted by said first panel, and the first panel 10 and the diffuser panel 20 provides a uniform high intensity backlighting to the display panel 18.

However, Johnson does not disclose a second panel comprising Fresnel lenses, wherein the first panel, the second panel and the diffuser panel, each defining a plane, overlay one another in the sequence stated with their planes parallel to one another.

As shown in Fig. 4, Garwin discloses an optical pointing device comprising a first panel 23 (PCB) comprising LED light source 21, a second panel 20 comprising a panel of Fresnel lenses, and a diffuser panel 26, the light passing directly from the point light source 21 to the Fresnel lens 20, and, subsequently, to the diffuser panel 26,

wherein the panels, each defining a plane, overlay one another in the sequence stated with their planes parallel to one another (col. 3, lines 1-6; and col. 7, line 66 through col. 8, line 6).

(See also Fig. 12 where the optical pointing device comprises LEDs 54, Fresnel lens 56, 58 and diffuser panel 57 (col. 7, lines 43-51).)

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the illumination apparatus of Johnson with the teaching of Garwin by having a second panel comprising Fresnel lenses, wherein the first panel, the second panel and the diffuser panel, each defining a plane, overlay one another in the sequence stated with their planes parallel to one another in order to improve the optical alignment and optical beam profiles of the LEDs, thereby improving

the accuracy of the apparatus and obtaining satisfactory performance without costly LED selection (col. 1, lines 5-12 and 54-59 and col. 2, lines 53-59).

With the modification, it is obvious that the structure comprising the first panel, the second panel and the diffuser panel, which is substantially identical to the claimed invention, provides a uniform high intensity backlighting to the display panel due to the accuracy of the illumination apparatus.

Re claims 59 and 76, Johnson discloses that the high intensity light point sources 12 are LEDs (col. 5, lines 1-9).

Re claim 60, Johnson discloses that the LEDs 12 are aligned in a plurality of columns and rows as shown in Fig. 2 (col. 5, lines 10-19).

Re claims 61 and 77, Johnson discloses that the first panel 10 comprises a grid of high intensity light sources 12 and a reflective background (col. 4, line 58 through col. 5, line 19).

Re claim 62, Johnson discloses that the first panel 10 comprises a grid of LEDs 12 and a reflective background (col. 4, line 58 through col. 5, line 19).

Re claim 63, Johnson discloses that the first panel 10 has a white background (col. 4, lines 60-67).

Re claim 78, Johnson discloses that the first panel 10 comprises a grid of high intensity light sources 12 and a white background (col. 4, line 58 through col. 5, line 19).

Re claim 80, Johnson discloses that the display panel 18 is an LCD display panel.

Re claim 81, Garwin discloses that the illuminating apparatus is used for television (col. 1, lines 5-8). With the modification, it is obvious that the display panel can be an LCD television.

9. Claims 64-67 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (Johnson, US 6,439,731 B1) in view of Garwin et al. (Garwin, US 5,949,402) as applied to claims 58-63, 75-78, 80 and 81 above, and further in view of Shimada et al. (Shimada, US 6,020,867).

Re claims 64, 65 and 79, Johnson as modified in view of Garwin does not disclose that the diffuser panel is made of polycarbonate or glass.

As shown in Figs. 89 and 90, Shimada discloses that the diffuser panel 239 disposed in front of the backlight unit 530 may be formed of a transparent member such as polycarbonate or glass in order to provide a large area planar distribution showing a high luminance and a good viewing angle characteristic (col. 37, line 52 through col. 38, line 5; and col. 38, lines 29-32).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the illumination apparatus for displays of Johnson by employing a diffuser formed of polycarbonate or glass as taught by Shimada in order to realize a high luminance and a good viewing angle characteristic for the display (col. 38, lines 29-32).

Re claims 66 and 67, as shown in Fig. 148, Shimada discloses a LCD apparatus comprising a backlight unit 530, a diffuser panel 239 (diffusion plate), a LCD panel P, and a cover 242 (face plate) placed in front of the LCD panel P to protect the LCD panel

P, wherein the cover 242 is made of a reinforced glass (col. 11, lines 4-11; col. 19, lines 13-17; and col. 61, line 59 through col. 62, line 20).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

/Thoi V. Duong/ - Primary Examiner

September 18, 2010